

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

AIR QUALITY CONTROL MINOR PERMIT

Permit AQ0186MSS01

Preliminary – May 12, 2010

The Department of Environmental Conservation (Department), under the authority of AS 46.14 and 18 AAC 50, issues Air Quality Control Minor Permit AQ0186MSS01 to the Permittee listed below.

Permittee: **BP Exploration (Alaska) Inc.**
P.O. Box 196612
Anchorage, Alaska 99519

Owner(s): See next page

Operator Same as Permittee

Stationary Source: **Central Power Stations (CPS)**

Location: Latitude: 70° 16' 34" N; Longitude: 148° 39' 43 W"

Physical Address: Section 13, Township 11N, Range 14E, Umiat Meridian

Project Name: H₂S Limit Increase

Permit Contact: Jim Pfeiffer (907) 564-4549

This permit revises the H₂S limit for the natural gas burned at CPS. The permit satisfies the obligation of the Permittee to comply with the air quality investigation under 18 AAC 50.201.

This permit authorizes the Permittee to revise the fuel gas H₂S content under the terms and conditions of this permit, and as described in the original permit application and subsequent application supplements listed in Section 5 except as specified in this permit.

The Permittee shall not operate under this permit until after the Department includes the provisions of this minor permit in the operating permit.

John F. Kuterbach, Manager
Air Permits Program

Owner(s):

BP Exploration (Alaska) Inc.

900 East Benson Blvd (zip 99508)
P.O. Box 196612
Anchorage AK, 99519-6612

ExxonMobil Corporation

3301 C Street, Suite 400 (zip 99503)
P.O. Box 196601
Anchorage, AK 99519-6601

ConocoPhillips Alaska, Inc.

700 G Street (zip 99501)
P.O. Box 100360
Anchorage, AK 99510-0360

Chevron USA, Inc.

P.O. Box 36366
Houston, TX 77236

Abbreviations/Acronyms

AAAQS	Alaska Ambient Air Quality Standards
AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
AS.....	Alaska Statutes
ASTM.....	American Society of Testing and Materials
BACT	Best Available Control Technology
BPXA	BP Exploration (Alaska), Inc.
CPS.....	Central Power Station
C.F.R.	Code of Federal Regulations
EPA	Environmental Protection Agency
MR&R	Monitoring, Recordkeeping, and Reporting
NSPS	New Source Performance Standards
ORL.....	Owner Requested Limit
PSD.....	Prevention of Significant Deterioration
PTE.....	Potential to Emit
RM.....	Reference Method
TAR.....	Technical Analysis Report

Units and Measures

bhp.....	brake horsepower or boiler horsepower
gr./dscf.....	grains per dry standard cubic foot (1 pound = 7,000 grains)
dscf	dry standard cubic foot
gph.....	gallons per hour
g/hp-hr	grams per horsepower-hour
g/kW-hr.....	grams per kilowatt-hour
hp.....	horsepower
kW	kilowatts (electric)
lb.....	pounds
MMBtu	million British thermal units
MMBtu/hr	million British thermal units per hour
MMscf	million standard cubic feet
MW.....	Megawatts (electric)
ppm.....	parts per million
ppmv.....	parts per million by volume
ppmvd.....	parts per million by volume dry
scf	standard cubic feet (dry gas at 68 °F and absolute pressure of 760 mmHg)
scfm	standard cubic feet per minute (dry gas at 68 °F and absolute pressure of 760 mmHg)
TPY	tons per year
wt%	weight percent

Pollutants

CO	Carbon Monoxide
NO _x	Oxides of Nitrogen
NO ₂	Nitrogen Dioxide
PM-10.....	Particulate Matter with an aerodynamic diameter less than 10 microns
S	Sulfur
SO ₂	Sulfur Dioxide
H ₂ S	Hydrogen Sulfide

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Section 1. Emission Unit Inventory

- Emission Unit Description.** Emission units listed in Table 1 have specific limits for Title 1 purposes. Except as noted elsewhere in this permit, the information in Table 1 is for identification purposes only. The specific unit descriptions do not restrict the Permittee from replacing an emission unit identified in Table 1 with one of the same nominal rating and fuel type. The Permittee shall comply with all applicable provisions of AS 46.14 and 18 AAC 50 when installing a replacement emission unit, including any applicable minor or construction permit requirements.

Table 1 - Emission Unit Inventory

Unit No	Tag No.	Unit Description	Nominal Rating/Size	Construction / Install / Modification Date
Gas-Fired Combustion Turbines				
1	GTRB-17-1101	GE MS 5001R	24,321 hp ISO (18.5 MW)	2/80
2	GTRB-17-2101	GE MS 5001R	24,321 hp ISO (18.5 MW)	2/80
3	GTRB-17-3101	GE MS 5001P	33,875 hp ISO (25 MW)	8/76
4	GTRB-17-4101	GE MS 5001P	33,875 hp ISO (25 MW)	8/76
5	GTRB-17-5101	GE MS 5001P	33,875 hp ISO (25 MW)	4/77
6	GTRB-17-6101	GE MS 5001P	33,875 hp ISO (25 MW)	4/77
7	GTRB-17-7101	GE MS 5001P	33,875 hp ISO (25 MW)	Prior to 8/7/77
Gas-Fired Heaters				
8	H-17-0601	BS & B 400IH	4.0 MMBtu/hr	1974
9	H-17-0601	BS & B 400IH	4.0 MMBtu/hr	1974
10	H-17-0601	CW 4500IH	4.5 MMBtu/hr	1975
11	H-17-0601	Jackson & Church	4.85 MMBtu/hr	1972
12	H-17-0601	Jackson & Church	4.85 MMBtu/hr	1972
Diesel Engines				
13	GNED-17-0101	Emergency Generator	738 hp (550 kW)	Prior to 1976
14	GNED-17-0102	Emergency Generator	738 hp (550 kW)	Prior to 1976

Section 2. Emission Fees

2. **Assessable Emissions.** The Permittee shall pay to the Department an annual emission fee based on the stationary source's assessable emissions as determined by the Department under 18 AAC 50.410. The assessable emission fee rate is set out in 18 AAC 50.410(b). The Department will assess fees per ton of each air pollutant that the stationary source emits or has the potential to emit in quantities greater than 10 tons per year. The quantity for which fees will be assessed is the lesser of
 - 2.1 the stationary source's assessable potential to emit of 5,422 TPY; or
 - 2.2 the stationary source's projected annual rate of emissions that will occur from July 1 to the following June 30, based upon actual annual emissions emitted during the most recent calendar year or another 12 month period approved in writing by the Department, when demonstrated by
 - a. an enforceable test method described in 18 AAC 50.220;
 - b. material balance calculations;
 - c. emission factors from EPA's publication AP-42, Vol. I, adopted by reference in 18 AAC 50.035; or
 - d. other methods and calculations approved by the Department.
3. **Assessable Emission Estimates.** Emission fees will be assessed as follows:
 - 3.1 No later than March 31 of each year, the Permittee may submit an estimate of the stationary source's assessable emissions to ADEC, Air Permits Program, ATTN: Assessable Emissions Estimate, 410 Willoughby Ave., Suite 303, Juneau, AK 99801-1795; the submittal must include all of the assumptions and calculations used to estimate the assessable emissions in sufficient detail so the Department can verify the estimates; or
 - 3.2 If no estimate is submitted on or before March 31 of each year, emission fees for the next fiscal year will be based on the potential to emit set forth in Condition 2.1.

Section 3. Ambient Air Quality Protection Requirements

SO₂ Ambient Air Quality Protection:

4. To protect the 3-hour, 24-hour and annual average SO₂ ambient air quality standards and increments, the Permittee shall limit the hydrogen sulfide (H₂S) content of the gaseous fuel burned in Units 1 through 12 to no greater than 140 parts per million by volume (ppmv) at any time.
 - 4.1 Determine compliance with the fuel gas H₂S content limit as follows:
 - a. Analyze the fuel gas H₂S content on a monthly basis using ASTM D 4810-88, ASTM D 4913-89, Gas Producer's Association (GPA) method 2377-86, or an alternative analytical method approved by the Administrator.
 - b. The fuel gas H₂S analysis required under this condition may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency.
 - 4.2 Keep records of the analysis conducted as required in Condition 4.1a.
 - 4.3 Report the monthly fuel gas H₂S concentration, for each month of the reporting period, in each Operating Report described in the applicable operating permit issued for the source under AS 46.14.130(b) and 18 AAC 50.
 - 4.4 Report Excess Emissions and Permit Deviations as described in the applicable operating permit issued for the source under AS 46.14.130(b) and 18 AAC 50, should the fuel gas H₂S concentration exceed the limit in Condition 4.
5. To protect the annual average SO₂ air quality standard and increment, the Permittee shall limit the hours of operation for Units 13 and 14 to no more than 200 hours per consecutive 12-month period per unit.¹
 - 5.1 Monitor and record the monthly hours of operation and the consecutive 12-month summation for each of the units as described in the applicable operating permit issued for the source under AS 46.14.130(b) and 18 AAC 50.
 - 5.2 Report the monthly and the consecutive 12-month total hours that each of the units operated each month of the reporting period with the operating report described in the applicable operating permit issued for the source under AS 46.14.130(b) and 18 AAC 50.
 - 5.3 Report under Excess Emissions and Permit Deviation described in the applicable operating permit issued for the source under AS 46.14.130(b) and 18 AAC 50, if the consecutive 12-month total hours of operation exceed the limit in Condition 5.

¹ These operating hour limits were established in a previous permit action. The limit was also used in the modeling analysis to demonstrate compliance with the ambient standards/increments.

Section 4. Standard Permit Conditions

6. The Permittee must comply with each permit term and condition. Noncompliance with a permit term or condition constitutes a violation of AS 46.14, 18 AAC 50, and, except for those terms or conditions designated in the permit as not federally enforceable, the Clean Air Act, and is grounds for
 - 6.1 an enforcement action; or
 - 6.2 permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280.
7. It is not a defense in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with a permit term or condition.
8. Each permit term and condition is independent of the permit as a whole and remains valid regardless of a challenge to any other part of the permit.
9. Compliance with permit terms and conditions is considered to be compliance with those requirements that are
 - 9.1 included and specifically identified in the permit; or
 - 9.2 determined in writing in the permit to be inapplicable.
10. The permit may be modified, reopened, revoked and reissued, or terminated for cause. A request by the Permittee for modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any permit condition.
11. The permit does not convey any property rights of any sort, nor any exclusive privilege.

Section 5. Permit Documentation

April 8, 2010	E-mail from Sims Duggins (AECOM, BPXA's Consultant) to Alan Schuler (ADEC) with attachment of letter Re: BPXA Prudhoe Bay Central Power Station and Gathering Center #3 Supplemental Ambient Air Quality Modeling to Support Minor permit Applications. BPXA also submitted a summary of revised owner requested limits for fuel gas H ₂ S and fuel oil sulfur limits.
March 4, 2010	E-mail from Alan Schuler (ADEC) to Sims Duggins (AECOM, BPXA's Consultant) requesting to recompile the two ambient assessment for CPS and GC-2 into a combined, comprehensive analysis.
January 7, 2010	Letter from Rachael Buckbee (BPXA) to John Kuterbach (ADEC), Re: Greater Prudhoe Bay Fuel Gas H ₂ S, A Historical Perspective and Proposed Path Forward for the BPXA CPS, FS-2, GC-1, GC-2 and GC-3 Stationary Source Title V Permit Fuel Gas H ₂ S Limits.
December 20, 2007	Minor Permit Application to Revise and Rescind Limits of Air Quality Operating/Construction Permit AQ0186TVP01/AQ0186CP01.
January 7, 2003	Air Quality Construction and Operating Permit No. 186CP01 & 186TVP01 to BP Exploration (Alaska) Inc. for the operation of the PBU Central Power Station.
January 3, 1997	Letter from Steven Taylor (BPXA) to Alfred Bohn (ADEC). Re: BPX Central Power Station Air Quality Permit to Operate No. 9473-AA032 Request for Revision.
December 27, 1994	Air Quality Control Permit to Operate 9473-AA032 to BP Exploration (Alaska) Inc. for the Central Power Station.
November 30, 1994	Air Quality Control Permit to Operate 9473-AA007 to BP Exploration (Alaska) Inc. for the Central Power Station.
July 21, 1987	Air Quality Control Permit to Operate 8736-AA018 to Standard Alaska Production Company for the operation of fuel burning equipment at the Central Power Station.